What is claimed is:

1. A frequency-selective circuit comprising:

an active device providing an input port and an output port, the active device having a bandwidth defined by a cutoff frequency;

a reactive component coupled to the output port; and

a compensation resistance coupled to the reactive component, wherein the compensation resistance is effective to compensate for a bandwidth limitation of the active device.

2. The frequency-selective circuit defined in Claim 1, wherein the reactive component comprises a capacitor.

3. The frequency-selective circuit defined in Claim 2, wherein the compensation resistance comprises a compensation resistor and wherein the compensation resistor has a resistance value that is inversely proportional to a tangent of a phase-shift at a predetermined compensation frequency.

4. The frequency-selective circuit defined in Claim 3, wherein the compensation resistor has a resistance value that is inversely proportional to a capacitance value of the capacitor.

5. The frequency-selective circuit defined in Claim 3, wherein the predetermined compensation frequency is a frequency at which a Q_{max} of the frequency-selective circuit appears.

6. The frequency-selective circuit defined in Claim 1, wherein the active device comprises an operational transconductance amplifier (OTA).

7. The frequency-selective circuit defined in Claim 6, wherein the reactive component comprises a capacitor.

8. The frequency-selective circuit defined in Claim 7, wherein the compensation resistance comprises a compensation resistor and wherein the compensation resistor has a resistance value that is proportional to a tangent of a phase-shift at a predetermined compensation frequency.

9. The frequency-selective circuit defined in Claim 8, wherein the compensation resistor has a resistance value that is inversely proportional to a capacitance value of the capacitor.

10. The frequency-selective circuit defined in Claim 7, wherein the compensation resistance comprises a resistor and, at a predetermined compensation frequency, the compensation resistor has a resistance value that is proportional to a tangent of a phase-shift of the OTA transconductance at the compensation frequency.

11. A frequency-selective circuit comprising:

an operational transconductance amplifier having a bandwidth-limited transconductance that is defined by a cutoff frequency;

a capacitor coupled to an output of the OTA so as to reflect an inductor at an input of the OTA; and

a compensation resistor coupled to the capacitor and effective to compensate for a bandwidth limitation of the transconductance.

12. The frequency-selective circuit defined in Claim 11, wherein, at a predetermined compensation frequency, the resistor has a resistance value that is inversely proportional to a tangent of a phase-shift at a predetermined compensation frequency and inversely proportional to a capacitance value of the capacitor.

13. The frequency-selective circuit defined in Claim 12, wherein the frequency-selective circuit exhibits a Q_{max} and a Q_{min}, and wherein the predetermined compensation frequency is selected to correspond to Q_{max}.

14. A method of compensating for a bandwidth limitation of an active frequency-selective circuit, the method comprising:

determining a compensation frequency;

determining a value of an effective negative resistance that results, at least in part, from a bandwidth limitation of an active device in the frequency-selective circuit; and

providing in the frequency-selective circuit a compensation resistor that, at the compensation frequency, is effective to compensate the negative resistance.

15. The method defined in Claim 14, wherein the compensation frequency is a frequency at which a Q_{max} of the active frequency-selective circuit occurs.

16. The method defined in Claim 14, wherein the active frequency-selective circuit comprises:

an active device providing an input port and an output port, the active device having a bandwidth defined by a cutoff frequency; and

a reactive device coupled to the output port.

17. The method defined in Claim 16, further comprising:

coupling the compensation resistor to the reactive device.

18. The method defined in Claim 17, wherein the compensation resistor is selected to have a resistance value, at the compensation frequency, that is inversely proportional to the tangent of a phase-shift at the compensation frequency.

19. The method defined in Claim 16, wherein the active device comprises an operational transconductance amplifier (OTA) having a transconductance that is bandwidth limited to a frequency approximate to the cutoff frequency.

20. The method defined in Claim 17, further comprising:

coupling the compensation resistor to the reactive device.

21. A method as defined in Claim 20, wherein the compensation resistor is selected to have a resistance value, at the compensation frequency, that is inversely proportional to a phase-shift at the compensation frequency.

22. The method defined in Claim 21, wherein the active frequency-selective circuit exhibits a Q_{max} and a Q_{min}, the method further comprising:

effecting compensation of the negative resistance at a frequency corresponding to Q_{max}.

23. A Gm-C filter circuit comprising:
an input node;
an output node;
an intermediate node;
a return node;
a first compensated reactive branch coupled between the input node and the intermediate node; and
a second compensated reactive branch coupled between the output node and the intermediate node.

24. The Gm-C filter defined in Claim 23, wherein the first reactive branch comprises:
a first operational transconductance amplifier (OTA) device, the first OTA device having an input port and having a bandwidth defined by a first cutoff frequency;
a first reactive device coupled to the output port of the first OTA device; and
a first compensation resistance coupled to the first reactive device; and wherein the second reactive branch comprises:
a second OTA device, the second OTA device having an input port and having a bandwidth defined by a second cutoff frequency;
a second reactive device coupled to the output port of the second OTA device; and
a second compensation resistance coupled to the second reactive device.

25. The Gm-C filter defined in Claim 23, wherein the first cutoff frequency is substantially equal to the second cutoff frequency.

26. The Gm-C filter defined in Claim 23, wherein the first compensation resistance is effective to compensate for a bandwidth limitation of the first OTA device and the second compensation resistance is effective to compensate for a bandwidth limitation of the second OTA device.

27. The Gm-C filter defined in Claim 25, wherein the first reactive device comprises a first capacitor and a second reactive device comprises a second capacitor.

28. The Gm-C filter defined in Claim 26, wherein the first compensation resistance comprises a first compensation resistor having a first resistance value that is inversely proportional to the tangent of a phase-shift at a first compensation frequency and wherein the second compensation resistance comprises a second compensation resistor having a second resistance value that is inversely proportional to the tangent of a phase-shift at a second compensation frequency.

29. The Gm-C filter defined in Claim 27, wherein, the compensation frequency, the first resistance value is inversely proportional to a capacitance value of the first capacitor and the second resistance value is inversely proportional to a capacitance value of the second capacitor.

30. The Gm-C filter defined in Claim 28, wherein the Gm-C filter circuit exhibits at least a Q_{max} and a Q_{min} and wherein the compensation frequency is selected to correspond to the Q_{max}.

31. The Gm-C filter defined in Claim 29, wherein the first OTA device and the second OTA device each comprise:

a first OTA having differential inputs and differential outputs: and

a second OTA having differential inputs and differential outputs, and wherein the differential outputs of the first OTA are coupled to the differential inputs of the second OTA; and

the differential outputs of the second OTA are coupled to the differential inputs of the first OTA.

32. A system comprising:

a low-noise amplifier (LNA) to receive a modulated carrier signal;

a mixer coupled to the LNA;

a demodulator coupled to the mixer; and

a bandwidth-compensated filter coupled to the LNA, the bandwidth-compensated filter comprising:

an active device providing an input port and an output port, the active device having a bandwidth defined by a cutoff frequency;

a reactive component coupled to the output port; and

a compensation resistance coupled to the reactive component, wherein the compensation resistance is effective to compensate for a bandwidth limitation of the active device.

33. The system defined in Claim 32, wherein the reactive component comprises a capacity and wherein the compensation resistance comprises a compensation resistor having a resistance value that is inversely proportional to a product of a capacitance value of the capacitance and a tangent of a phase-shift at a predetermined compensation frequency.

34. The system defined in Claim 33, wherein the active device comprises an operational transconductance amplifier (OTA) having a bandwidth-limited transconductance that is defined by a cutoff frequency.

35. The system defined in Claim 34, wherein the phase-shift is the phase-shift of the transconductance at the predetermined frequency.

36. The system defined in Claim 35, wherein the predetermined frequency is the frequency at which a maximum Q of the bandwidth-compensated filter occurs.